Clinico-pathological Parameters Of 50 Oral Squamous Cell Carcinoma Cases in Karachi

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ABSTRACT

Background: The incidence of oral squamous cell carcinoma remains high in Indo-Pak region. Worldwide oral and oropharyngeal carcinomas are the sixth most common cancers. A number of clinic-pathological parameters have been implicated in prognosis, recurrence and survival for this tumor. As a very high frequency reported in major hospitals of Karachi, this study documented some of the well known clinic-pathological parameters in the indigenous population of Karachi.

Objectives: To analyze the clinicopathological parameters of cases of OSCC in the population of Karachi.

Methods: The study protocol was approved by the Ziauddin University ethics committee for human research. The patients' data was entered onto questionnaires. The reporting included a range of clinical, operative and histopathological variables. Recurrence of tumor after initial treatment was also documented.

Results: The patients' population comprised 31 males and 19 females. The mean age was 45.56 (SD ± 12.08). Minimum age was 15 years, while maximum was 75 years. Pathological analysis revealed that majority of SCC cases were moderately differentiated SCC with clinical stage T2 or T3, N0,M0/N1,M0. Most common oral sites came out to be buccal mucosa of cheeks followed by lateral borders of tongue and lips. All patients underwent primary resection ± neck dissection and reconstruction when necessary.

Conclusion: Overall experience with OSCC shows that it has a high tendency to disseminate to regional lymph nodes, i.e. cervical lymph nodes, as well as to re-emerge at the primary site after resection.

KEY WORDS: *Oral Squamous Cell Carcinoma, Clinico-Pathological Parameters, Clinical Stage.*

INTRODUCTION

The incidence of oral squamous cell carcinoma (OSCC) remains high.[1] Oral and oropharyngeal carcinomas are the sixth most common cancers in the world.[2] Oral cancer is among the leading cancer type in South Central Asian men. In India, oral cancer is the leading cancer type among men and third most common cancer among women.[3] Oral precancerous lesions (PCLs) such as leukoplakia and submucous fibrosis are early indicators of damage to the oral mucosa with a transformation rate of 2–12% to frank malignancies.[4]

In Pakistan, cancer of the oral cavity and pharynx are amongst the commonest type of cancer. According to the reports published by Pakistan Medical Research Council (PMRC), it was the most common cancer among males and second highest to breast in females.[5,6,7] More recent data shows that oral cavity cancer in Karachi South ranks second in both males and females with similar rates in both genders.[8] During the last 5-6 years it has been observed in one of the major hospitals in Karachi that the disease is appearing more in younger individuals, youngest being 12 years old. Major contributors for this increased incidence include chewable tobacco i.e. qivam, pati, gutka and manpuri, betal quid containing areca nuts with fungus *Aspergillus,* HPV infection, familial predisposition and mutations of tumor suppressor genes. Smoking is considered an inappropriate habit socially for females; however the practice of chewing tobacco is high in all socio-economic circles. A survey in Karachi indicated that 36% of the males and 44% females in Karachi chew pan or pan with tobacco. The age specific rates show a gradual rise to a maximum in the 7th decade in both sexes.[9,10]

Despite the availability of new treatment modalities, the overall survival of patients has not improved significantly during the past 20 years, with 5-year survival rates between 45-50%.[11] The current trend for predicting prognosis is linked to tumor size (T1/T2 commonly referred to as "low-risk tumors" and T3/T4 commonly referred to as "high-risk". The outcome is greatly influenced by the stage of the disease.[12] Prognosis also depends or varies with tumor primary site, nodal

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involvement, tumor thickness, and the status of the surgical margins.[13]

METHODOLOGY

The case selection for this preliminary data presentation is from an ongoing case-control study and comprises of 50 cases of squamous cell carcinomas of oral cavity (OSCC). Patients were recruited from two of the busiest tertiary-care hospitals of the city catering these advanced-stage oral cancer cases. One being a public sector Civil hospital, Karachi and the other is a private Ziauddin University Hospital, Karachi.

After obtaining an informed consent from all participants in the study, personal details were recorded in a questionnaire upon interview. Information regarding age, gender, occupation and details about duration, frequency, nature of tobacco habit (smoking or

squamous cell carcinoma. SPSS version 15 was utilized for data recording and statistical analysis.

RESULTS

The clinico-pathologic parameters for cases of squamous cell carcinomas have been evaluated in terms of age, sex, site of the primary lesion, histological grade and clinical stage of tumor at the time of presentation.

Majority of our oral cancer cases fall in the middle-age bracket of 31 to 60 years (42 cases). Male gender shows predominance over female, 31 vs 19, due to the obvious reason of tobacco habit (tab-1, fig-1). In 48% of cases, the lesion was found to be on buccal mucosa of the cheek. This is followed by cancers of tongue and lips (30% and 18% of cases, respectively).

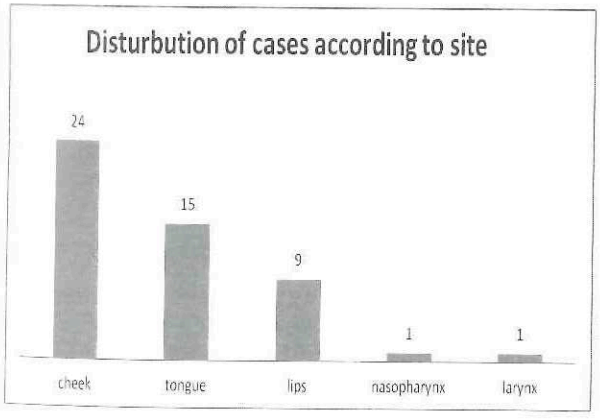
poorly differentiated (fig-2). Most of the moderately differentiated tumors belong to the clinical stage II.

Table 1: Distribution Of Carcinoma Cases According To Age, Gender & Site Of Lesion

Age Group (Years)	Site of lesion												Total
	1		2		3		4		5		6		
	M	F	M	F	M	F	M	F	M	F	M	F	
11-20	-	01	-	-	-	-	-	-	-	-	-	-	01
21-30	02	-	-	-	02	-	-	-	01	-	-	-	05
31-40	05	01	04	01	01	-	-	-	-	-	-	-	12
41-50	06	02	04	02	01	03	-	-	-	-	-	-	18
51-60	03	03	01	01	-	02	-	-	-	-	01	-	11
61-70	-	01	01	-	-	-	-	-	-	-	-	-	02
71-80	-	-	-	01	-	-	-	-	-	-	-	-	01
Total	16	08	10	05	04	05	-	-	01	-	01	-	50

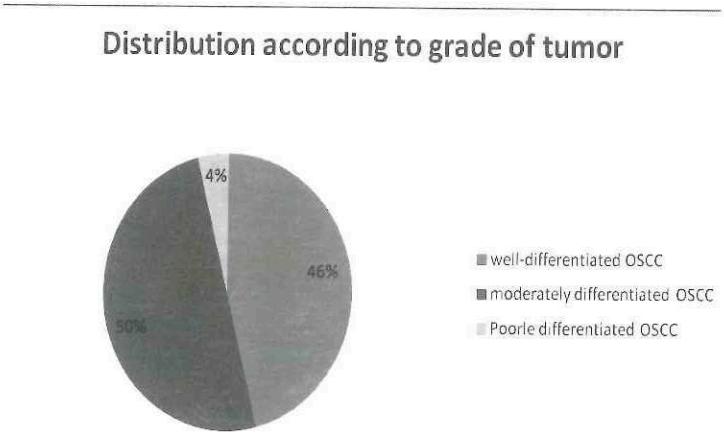
Key: 1-Cheek, 2- Tongue, 3- Lips, 4- Floor of mouth, 5- Lips, 6- Other

Figure 1: Distribution Of Carcinoma Cases According Site Of Lesion



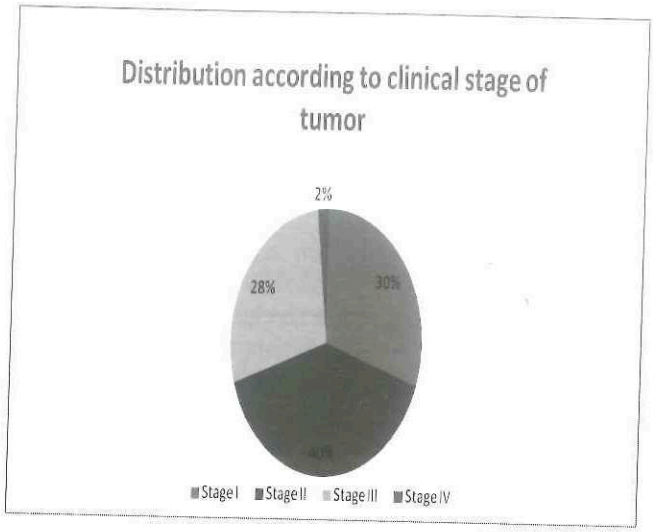
On histopathological evaluation, 50% cases were moderately differentiated squamous cell carcinomas, 46% were well-differentiated tumors and only 4% were smokeless) and alcohol consumption was obtained. All cancers were confirmed by histopathology to be

Figure 2: Distribution Of Carcinoma Cases According To Grade of Tumor



At the time of reporting to our tertiary care hospitals 68% of cases belonged to clinical stage II/III, while 30% cases were from clinical stage I. only 2% of cases were stage IV tumors (fig-3).

Figure 3: Distribution Of Carcinoma Cases According To Clinical Stage of Tumor



DISCUSSION

While studying the characteristics of a malignant tumor which is so prevalent in our part of the world, we came across several contrasts to what has been reported for this tumor in the western literature. The single etiological factor of use of tobacco with additives has widespread implications as regards to site of these lesions as well as age at first presentation to a tertiary-care hospital. Here the discussion is limited to various well known clinic-pathological parameters of squamous cell carcinoma of oral cavity.

Oral cancer is known to affect more males than females with an approximate ratio of 1.5:1, respectively. Nearly a quarter of the newly diagnosed cancers in males from Sri Lanka, India, Pakistan and Bangladesh are located in the head and neck region.[14,15] The male:female ratio in our study also showed a similar trend with a male/female ratio of 1.5:1. This can be explained by the prevalence of tobacco habits in our male population which is slightly more than that of females especially in the lower straita of our society.

AGE AT FIRST DIAGNOSIS: According to the reported data from western countries about 6% of oral cancers occur in young people under the age of 45 years.[16] Young age in patients with SCC of the tongue appeared to be an independent predictor of worse survival in another study.[17] In stark contrast to this, our study shows that half of our cases (50%) were under 45 years of age. This shows a definite impact of the common etiological factor, i.e, starting use of tobacco and betel nut at an earlier age in our population. In our study, the youngest patient being just 15 years old.

World-wide the most commonly reported oral cancer sites include the floor of the mouth (FOM) and lateral borders of the tongue. The tongue, as a whole, is the most common (40-50%) site for oral SCC in European and American population. In the Asian population cancer of the buccal mucosa due to betel quid/tobacco chewing habitsis the common site; Buccal mucosa SCC constitute 40% of OSCC in Sri Lankan population.[18] In our study, the overwhelming majority of patients suffered from cheek cancer followed by that of tongue and lips. Here again the gene-environment interaction being the major player as the habit of gutka and betel quid placing for prolong duration in direct association with the buccal mucosa of cheek is widespread in our study population.

TUMOR STAGE: The TNM classification of the International Union Against cancer (UICC) relates well to the overall survival.[19, 20] The earlier the tumour stage, the better the prognosis and the less complicated is the treatment.[21] In our study, clinical stage was discernible in 46 cases (04 cases were of equivocal status for stage II or III). Out of these 16 were in stage II, 15 were in stage I, 14 were in stage III, and only one case in stage IV.

HISTOPATHOLOGICAL GRADE: It is widely accepted that prognosis is better in early cancers, particularly those that are well-differentiated.[19, 20] The WHO grading system[22] recommends 3 categories: well differentiated, moderately differentiated and poorly differentiated. This usually depends on the subjective assessment of the degree of keratinisation, cellular and nuclear pleomorphism, and mitotic activity.[23] In our study, half of the patients had moderately-differentiated SCC (n=25/50%), 23 patients (46%) had well-differentiated SCC, while only in two cases (4%) was the tumor found to be poorly differentiated.

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